

REMARKS

In the present Amendment, Claim 1 has been amended to recite a styrene-butadiene rubber having 35-60 mass% of a bound styrene content as a rubber component. This amendment is supported by the specification, for example, page 5, line 19. Claim 1 has also been amended, in the last line of the claim, to replace “a rubber component” with “the rubber component.”

Claims 8 and 9 have been added. Claim 8 is supported by the specification, for example, page 3, line 30. Claim 9 is supported by the specification, for example, page 3, line 31 and Examples (Table 1).

No new matter has been added and entry of the Amendment is respectfully requested. Upon entry of the Amendment, Claims 1-9 will be all the claims pending in the application.

I. Priority Claim

The Examiner has not acknowledged Applicants’ priority claim or indicated receipt of the certified copy of Applicants’ priority document.

Applicants respectfully submit that the certified copy of the priority document was previously submitted on August 17, 2004, as evidenced by the PTO date-stamped filing receipt (a copy attached). Accordingly, the Examiner is respectfully requested to acknowledge Applicants’ priority claim and confirm receipt of the certified copy of Applicants’ priority document in the next PTO communication.

II. Response to Rejection Under 35 U.S.C. § 112, Second Paragraph

Claims 1-7 have been rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite. See Paragraph No. 2 of the Office Action.

Applicants respectfully submit that the present claims are not indefinite. As noted above, Applicants have amended Claim 1, from which Claims 2-7 depend, primarily or secondarily, to specify styrene-butadiene rubber as a rubber component. Accordingly, the Examiner is respectfully requested to reconsider and withdraw the rejection.

II. Response to Rejection Under 35 U.S.C. § 102

Claim 1 has been rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Hayes et al (U.S. Pat. No. 4,713,409). See Paragraph No. 6 of the Office Action.

Applicants respectfully submit that present Claim 1 is novel over Hayes et al. As noted above, Applicants have amended Claim 1 to recite a styrene-butadiene rubber having 35-60 mass% of a bound styrene content.

In contrast, as the Examiner pointed out, the styrene-butadiene copolymer rubber described in Hayes et al has a bound styrene content of 23.5 mass%. It is clear that the presently claimed styrene-butadiene rubber is different from the styrene-butadiene copolymer rubber described in Hayes et al in terms of a bound styrene content.

Accordingly, Applicants respectfully submit that Hayes et al does not anticipate the present claims and thus the rejection should be withdrawn.

III. Response to Rejection Under 35 U.S.C. § 103

Claims 1-7 have been rejected under 35 U.S.C. § 103(a) as allegedly being obvious over Eswaran et al (U.S. Pat. No. 5,711,904) in view of Hayes et al. See Paragraph No. 7 of the Office Action.

Applicants respectfully submit that the present claims are patentable over the cited references for at least the following reasons.

The present claims are directed to a method of producing a rubber composition which comprises mixing a curing agent with a curable rubber composition comprising at least 70 mass% of styrene-butadiene rubber having 35-60 mass% of a bound styrene content as a rubber component and containing not less than 60 parts by weight of a reinforcing filler and not less than 50 parts by weight of a softening agent extractable with acetone-chloroform after curing, based on 100 parts by weight of the rubber component, in a continuous mixing machine.

In contrast, Hayes et al describes a styrene-butadiene copolymer rubber having a bound styrene content of 23.5 mass%.

Therefore, even if there might be motivation to combine the references, in the manner suggested by the Examiner, the combination still would not result in the presently claimed invention wherein the styrene-butadiene rubber has 35-60 mass% of a bound styrene content.

Further, in the presently claimed invention, the specified rubber composition, which hardly forms a sheet due to adhesion to the inner wall in the mixing through the conventional closed type Banbury mixer or the like (discontinuous or batch systems), is forcedly shaped into a sheet in the continuous mixing machine (twin screw extruder).

In such a specified rubber composition, SBR having a high styrene content easily adheres to the inner wall. Moreover, as the amount of the reinforcing filler such as carbon black becomes higher, heat is generated in the mixing and brings about the adhesion. Further, as the amount of the softening agent becomes higher, the rubber composition becomes too soft to bring about the adhesion. The presently claimed invention improves the workability in the preparation of the above specified rubber composition through the continuous mixing machine.

Hayes et al discloses a vulcanizable rubber composition prepared in an internal mixer or mill (i.e., batch system). The rubber composition of Hayes et al does not cause the problems to be solved in the present invention. In addition, Eswaran et al discloses a rubber composition which does not cause the problems to be solved in the present invention. Neither Eswaran et al nor Hayes et al disclose or suggest the above-mentioned unexpected results of the presently claimed invention.

In view of the foregoing, Applicants respectfully submit that the present claims are not obvious over the cited references and thus the rejection should be withdrawn.

IV. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No.: 10/759,140

Attorney Docket Q79470

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



Fang Liu
Registration No. 51,283

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE

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